

### REMARKS

The above amendments are made in response to the outstanding Final Office Action dated December 24, 2008. The Examiner's reconsideration is respectfully requested in view of the above amendments and the following remarks

Claims 1 and 5 have been amended to more clearly define the subject matter of the claimed invention. Claims 2 and 6 have been previously cancelled. No new matter has been introduced by these amendments.

Claims 1, 3-5, 7 and 8 are pending in the present application.

#### **Claim Rejections Under 35 U.S.C. §103**

##### **Rejection of Claims 1 and 5**

Claims 1 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushima (U.S. Patent Application Publication No. 2003/0016299) in view of Araki (U.S. Patent No. 5,278,659) and in further view of Okino (U.S. Patent No. 5,371,539).

In order for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143.

Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). Further, even assuming that all elements of an invention are disclosed in the prior art, an Examiner cannot establish obviousness by locating references that describe various aspects of a patent applicant's

invention without also providing evidence of the motivating force which would have impelled one skilled in the art to do what the patent applicant has done. *Ex parte Levengood*, 28 U.S.P.Q. 1300 (Bd. Pat. App. Int. 1993). The references, when viewed by themselves and not in retrospect, must suggest the invention. *In re Skill*, 187 U.S.P.Q. 481 (C.C.P.A. 1975).

Applicant has amended Claims 1 and 5 to more clearly define the subject matter of the claimed invention. Claims 1 and 5 are independent claims.

The amended Claims 1 and 5 include, *inter alia*, the following limitation:

a first A/D converter for receiving the output signals of the variable gain amplifier and converting the received output signals into digital signals;  
a second A/D converter for **directly** receiving the output signals of the image sensor and converting the received output signals into digital signals  
(Emphasis added)

As above, the claimed invention includes a first A/D converter and a second A/D converter. Further, the second A/D converter is configured to **directly** receive the output signals of the image sensor and convert the received output signals into digital signals.

More specifically, referring to FIG. 2 of this application, the first A/D converter 23 is configured to receive the output signals of the variable gain amplifier 22, which variably amplifies the output signals of the image sensor 21, thereby maximizing dispersion of signals input into the image data processor 24. The second A/D converter 25 is configured to **directly** receive the output signals from the image sensor and convert the directly received output signals into digital signals. This is of great value because an **unprocessed output value (for example, not amplified value)** of the image sensor 21 is used to generate a shutter control signal.

In the outstanding Final Office Action, the Examiner has stated that Matsushima and Okino do not teach or suggest the claimed second A/D converter, but Araki discloses the second A/D converter (reference character 14 in Fig. 3 of Araki).

Applicant respectfully disagrees with the Examiner's discussion on the Araki reference, in view of recitations of the amended Claims 1 and 5.

Araki is directed to an exposure control apparatus for use with a solid state imager. In Araki, the A/D converter 14 is configured to indirectly receive signals from the CCD 1 via an amplifying circuit 2, a detecting circuit 11 and a comparing circuit 12, as described in lines 29-60 on column 4 of Araki. That is, the signal from the CCD 1 is amplified in the amplifying circuit 2, and then peak-detected or detected in a mean value. The detected output is compared with an output potential of a reference voltage generating circuit 13, thereafter the difference therebetween is supplied to the A/D converter 14. In contrast, the claimed second A/D converter is configured to directly receive the output signal from the image sensor, i.e., receive unprocessed raw signals, which can be effectively used to generate a shutter control signal.

Thus, Applicant respectfully submits that Araki, either alone or in combination with Matsushima and Okino, does not teach or suggest *the second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*, as recited in the amended Claims 1 and 5.

It is therefore submitted that Matsushima, Okino and Araki, either alone or in combination, fail to teach or suggest the subject matter claimed in the amended Claims 1 and 5, and thus *no suggestion or motivation* exists in the cited references. Accordingly, *prime facie* obviousness does not exist regarding the subject matter claimed in Claims 1 and 5 with respect to the cited references. Applicant respectfully submits that Claims 1 and 5 are now allowable.

Rejection of Claims 3 and 7

Claims 3 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushima in view of Araki, in further view of Okino, and further in view of Shiga (U.S. Patent Application Publication No. 2005/0062874).

Claims 3 and 7 are directly dependent from the amended Claims 1 and 5 respectively.

As discussed above, the amended Claims 1 and 5 include a *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals.* However, Matsushima, Okino and Araki, either alone or in combination, do not teach the *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*, as recited in the amended Claims 1 and 5.

Shiga is directed to a digital camera. However, Shiga, either alone or in combinations with Matsushima, Okino and Araki, fails to teach or suggest a *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*, as recited in the amended Claims 1 and 5.

It is therefore submitted that Matsushima, Okino, Araki and Shiga, either alone or in combination, fail to teach or suggest the subject matter claimed in the amended Claims 1 and 5, and thus *no suggestion or motivation* exists in the cited references. Accordingly, *prime facie* obviousness does not exist regarding the subject matter claimed in Claims 1 and 5 with respect to the cited references. Applicant respectfully submits that Claims 1 and 5 are now allowable over Matsushima, Okino, Araki and Shiga.

Claims 3 and 7 are also believed to be allowable, by means of their direct dependency from Claim 1 and 5 respectively.

Rejection of Claims 4 and 8

Claims 4 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushima in view of Araki, in further view of Okino, and further in view of Nagata (U.S. Patent No. 6,366,228).

Claims 4 and 8 are directly dependent from the amended Claims 1 and 5 respectively.

As discussed above, the amended Claims 1 and 5 include a *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*. However, Matsushima, Okino and Araki, either alone or in combination, do not teach the *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*, as recited in the amended Claims 1 and 5.

Nagata is directed to a selecting circuit to be used for selecting CMOS inverters or the like. However, Nagata, either alone or in combinations with Matsushima, Okino and Araki, fails to teach or suggest a *second A/D converter for directly receiving the output signals of the image sensor and converting the received output signals into digital signals*, as recited in the amended Claims 1 and 5.

It is therefore submitted that Matsushima, Okino, Araki and Nagata, either alone or in combination, fail to teach or suggest the subject matter claimed in the amended Claims 1 and 5, and thus *no suggestion or motivation* exists in the cited references. Accordingly, *prime facie* obviousness does not exist regarding the subject matter claimed in Claims 1 and 5 with respect to the cited references. Applicant respectfully submits that Claims 1 and 5 are now allowable over Matsushima, Okino, Araki and Nagata.

Claims 4 and 8 are also believed to be allowable, by virtue of their direct dependency from Claim 1 and 5 respectively.

Applicant respectfully requests the Examiner to review these submissions and *withdraw* the rejection on the claims under 35 U.S.C. §103(a).

**Conclusion**

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Reconsideration and subsequent allowance of this application are courteously requested.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

The Examiner is invited to contact Applicant's Attorneys at the below-listed telephone number with any questions or comments regarding this Response or otherwise concerning the present application.

Respectfully submitted,

CANTOR COLBURN, LLP

By: /Jaegyoo Jang/  
Jaegyoo Jang  
Limited Registration No.: L0469

Date: March 24, 2009  
Cantor Colburn LLP  
1800 Diagonal Road  
Suite 510  
Alexandria, VA 22314  
Telephone: (703) 236-4500  
Facsimile: (703) 236-4501